Some evidence for improved metabolic control in type 1 diabetes in adolescents with addition of metformin to insulin therapy

Clinical question	How effective is metformin added to insulin therapy in the management of type 1 diabetes mellitus in adolescents?
Bottom line	There is some evidence suggesting improvement of metabolic control on addition of metformin to insulin therapy for adolescents with poorly controlled type 1 diabetes who have insulin resistance. The combined therapy lowered HbA1c levels more than insulin plus placebo but did not improve insulin sensitivity, body weight or serum lipids. One study showed insulin dosage decreased by 10%. Side effects were mainly gastrointestinal upset (both studies reviewed) and hypoglycaemia (1 study).
Caveat	Only 2 trials, involving 3 months of treatment, could be included. Meta-analysis was not possible due to the clinical and methodological heterogeneity of data. No data on health-related quality of life, all-cause mortality or morbidity are currently available.
Context	Metabolic control, as measured by HbA1c, often deteriorates during puberty in young people with type 1 diabetes, possibly due to the development of insulin resistance. This creates a great need for alternative therapeutic strategies for these patients.
Cochrane Systematic Review	Abdelghaffar S and Attia AM. Metformin added to insulin therapy for type 1 diabetes mellitus in adolescents. Cochrane Reviews 2009, Issue 1. Article No. CD006691. DOI: 10.1002/14651858. CD006691.pub2. This review contains 2 trials involving 60 participants.
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[References]